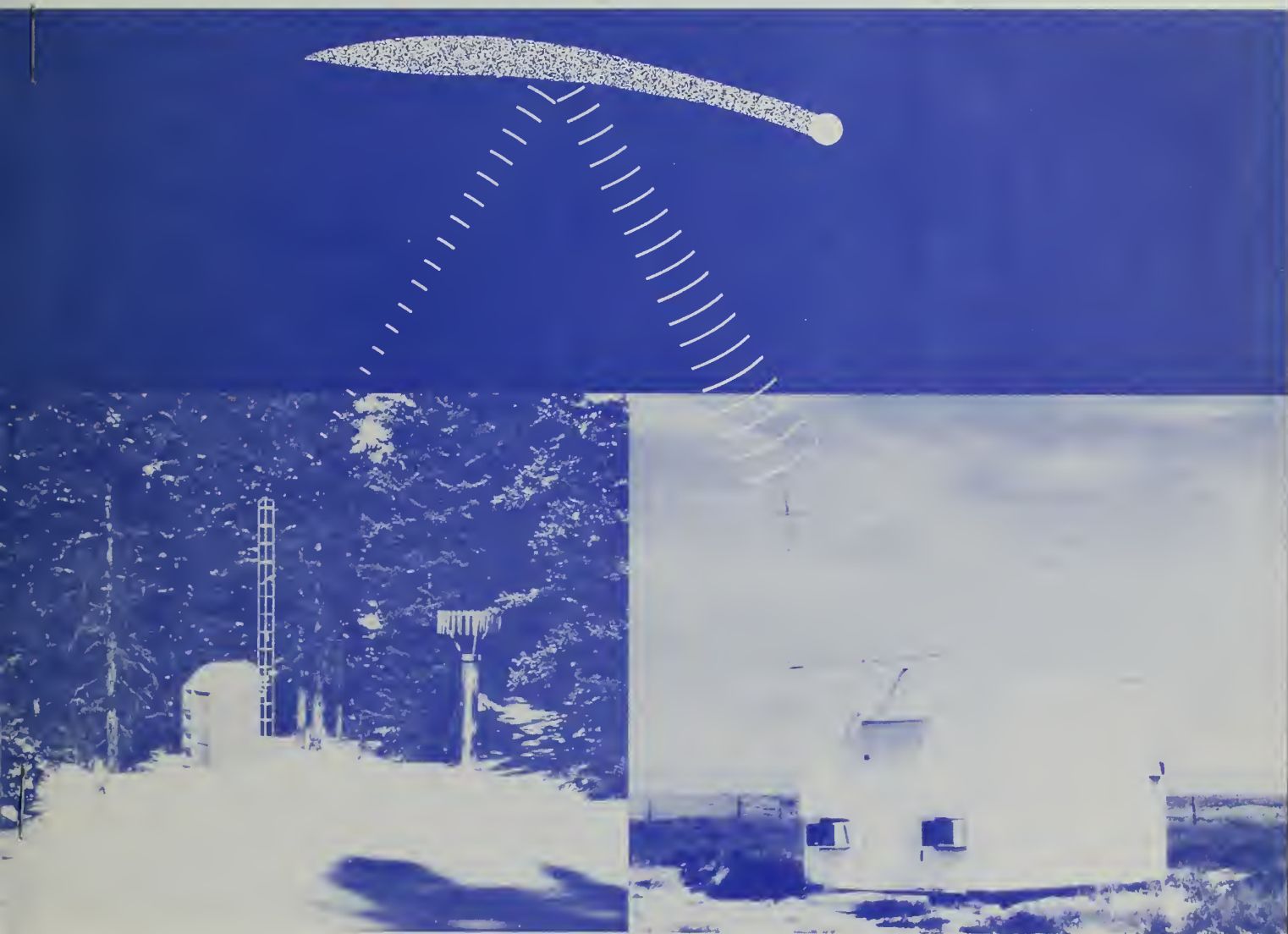


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FALL WATER SUPPLY SUMMARY FOR NEVADA



U. S. DEPARTMENT of AGRICULTURE ★ SOIL CONSERVATION SERVICE

Collaborating with

NEVADA DEPARTMENT of CONSERVATION
and NATURAL RESOURCES
DIVISION of WATER RESOURCES

Data included in this report were obtained by the agencies named above in cooperation with Federal, State and private organizations listed inside the back cover of this report.

AS OF
OCT. 1, 1978

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: SOME OF THE DATA IN THIS REPORT HAVE BEEN RECEIVED THROUGH THE SOIL CONSERVATION SERVICE'S NEW SNOTEL SYSTEM WHICH TRANSMITS INFORMATION VIA THE SPACE AGED METEOR BURST METHOD FROM DATA SITES TO MASTER STATIONS LIKE THESE.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3U08, Federal Building, Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1220 S.W. Third Ave., Portland, Oregon 97204
Utah	4012 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U.S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W., Calgary, Alberta T3C 1A6.



WATER SUPPLY OUTLOOK FOR NEVADA

and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

R. M. DAVIS
ADMINISTRATOR
SOIL CONSERVATION SERVICE
WASHINGTON, D. C.

|||||

Released by

GERALD THOLA
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

In Cooperation with

NORMAN S. HALL
DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

|||||

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ALL AVERAGES ARE FOR 1958-72 PERIOD

WATER SUPPLY OUTLOOK FOR NEVADA

STREAMFLOWS FOR THE APRIL 1 THROUGH JULY 31 PERIOD WERE GENERALLY ABOVE AVERAGE FOR MOST GAGING STATIONS AFFECTING NEVADA'S IRRIGATED AREAS. THE EXCEPTIONS WERE LAKE TAHOE RISE AND THE HUMBOLDT RIVER AT PALISADE AND COMUS. THESE STATIONS WERE 90 TO 95 PERCENT OF AVERAGE.

LAKE TAHOE'S RISE WAS 1.37 FEET FOR THE APRIL 1 TO HIGH DATE, ASSUMING GATES CLOSED. THE AVERAGE IS 1.46 FEET. ALL OTHER EASTERN SIERRA STREAMS MEASURED ABOVE AVERAGE FLOW RANGING FROM 114 TO 155 PERCENT.

THE HUMBOLDT RIVER STREAMFLOW WAS 90 PERCENT OF AVERAGE AT THE PALISADE STATION.

STORAGE AS OF OCTOBER 1 HAS IMPROVED ON THE RESERVOIRS FED BY SIERRA STREAMS BUT OVERALL STILL MUCH BELOW AVERAGE. LAKE TAHOE CONTAINS 131,000 ACRE-FEET OF USABLE CONTENTS AS COMPARED TO LAST YEAR'S ZERO. HOWEVER, THIS IS ONLY 29 PERCENT OF THE 1958-72 AVERAGE. RYE PATCH AND WILD HORSE RESERVOIRS ARE BELOW AVERAGE AND SIMILAR TO LAST YEAR.

Streamflows on the major Sierra streams ranged from 94 percent to 155 percent of average. The Truckee River at Farad was 119 percent, Lake Tahoe Rise 94 percent, East and West Forks of the Carson River 117 percent, East Walker 155 percent, and West Walker 136 percent. The actual streamflows were less than those forecasted April 1, 1978. Below average precipitation and near to below normal temperatures during the melt out period caused a gradual melting. This resulted in more water lost by evapo-transpiration and deep percolation. The effects of prolonged drought for two years added another loss factor.

Streamflows on the Humboldt River were 90 percent to 95 percent of average. No other stream data is available at this time.

The storage has improved on most reservoirs. Rye Patch and Wild Horse reservoirs are below average and near last year's storage. All others have shown improvement over last year. Lake Tahoe, Boca, Prosser, Stampede and Lahontan reservoirs have a combined total of 416,000 acre-feet as compared to last year's 64,000 acre-feet. Lake Tahoe contains 131,000 acre-feet, only 29 percent of average.

Above average precipitation and snowpack this winter is needed to assure adequate water supplies next season.

SNOTEL UPDATE

The Soil Conservation Service Snow Telemetry (Sno-tel) system is progressing. The operation of the twelve sites in Phase I was intermittent during the year. Data from some of the sites are published in this report on pages 7 through 16. More complete data is available on these sites upon request.

The installation of radios on Phase II (site #13 through #34) is now in progress. It is planned to have at least six of the Phase II sites ready for this season.

To date, the following sites have radios installed and will be operational for the 1979 season:

Bear Creak	Independence Lake
Corral Canyon	Marlette Lake
Ebbetts Pass	Mount Rose
Fallen Leaf	Sonora Pass
Hagans Meadow	76 Creek
Heavenly Valley	Virginia Lake Ridge
Independence Camp	Ward Creek #3

It is now planned that Phase I (1-12) and Phase II (13-34) sites will be operational by September 1, 1979. Phase III sites (35-47) will be installed the following year.

These operational Sno-tel sites will provide snow water equivalent, total precipitation and temperature two times a day. Additional daily readings are possible on a request basis. These sites should provide all water users with more complete data to help make better water management decisions.

Requests for data on specific sites should be made to:

Gerald Thola
State Conservationist
Soil Conservation Service
P. O. Box 4850
Reno, Nevada 89505

APRIL - JULY 1978
NEVADA STREAMFLOW FORECASTS
AND
OBSERVED STREAMFLOW

The following table contains April-July forecasts made during the past winter. Observed streamflow quantities are provisional as furnished by the U. S. Geological Survey.

FORECAST STREAMS	April - July Streamflow (Thousand Acre-feet)						
	Forecast				Observed	Average	Observed
	Feb.	Mar.	Apr.	May			
	1978	1978	1978	1978	1978	1958-72	1978 as % of 15-yr. avg.
<u>TRUCKEE RIVER</u>							
Little Truckee above, Boca, CA ¹	100	110	105	103	110	89	124
Truckee at Farad, CA ¹	335	340	335	345	318	267	119
Lake Tahoe Rise, CA ³	1.80	1.85	1.80	1.80	1.37	1.46	98
<u>CARSON RIVER</u>							
E. Carson nr Gardnerville, NV	250	265	265	257	213	182	117
E. Carson nr Gardnerville, NV (Date of 200 c.f.s. flow)	-	8/5	8/5	8/12	8/9	7/20	-
W. Carson at Woodfords, CA	70	75	75	75	61	52	117
Carson nr Carson City, NV	235	275	275	262	211	178	119
Carson nr Ft. Churchill, NV	215	245	245	235	182	159	115
<u>WALKER RIVER</u>							
E. Walker nr Bridgeport, CA ²	100	120	140	143	106	68	156
W. Walker below Little Walker near Coleville, CA	200	220	245	237	196	145	135
<u>HUMBOLDT RIVER</u>							
Humboldt at Palisade, NV	165	200	220	238	172	193	89
Humboldt at Comus, NV	115	165	180	194	143	149	96

¹ Corrected for storage above station.

² April-August flow, corrected for storage.

³ Maximum rise in feet from April 1, assuming gates closed.

RESERVOIR STORAGE STATUS
October 1, 1978

Basin and Stream	Reservoir	Usable Capacity (1,000 AF)	Usable Storage - 1,000 acre-feet			
			1978	1977	1976	15-year Average 1958-72
Owyhee	Wild Horse	72	27	20	44	18
Lower Humboldt	Rye Patch	172	54	50	108	89
Colorado	Mohave	1,810	1,484	1,465	1,721	1,402
Colorado	Mead	26,159	20,864	20,205	20,062	17,326
Tahoe	Tahoe	732	131	0	310	445
Truckee	Boca	41	36	5	30	14
Truckee	Prosser	30*	25	6	0	15**
Truckee	Stampede	220	61	31	58	**
Carson	Lahontan	291	163	22	72	120
West Walker	Topaz	59	31	0	6	18
East Walker	Bridgeport	42	30	0	4	15

* Flood control use allocation of 20,000 AF between November 1 and April 10.

** Prosser storage began 1/30/63; Stampede storage began 8/1/69.

PRECIPITATION (Inches)		CURRENT RECORD			PAST RECORD
BASIN AND PRECIPITATION GAGE LOCATION	ELEVATION	PERIOD OF MEASUREMENT	ACCUM. PRECIP. FOR THE PERIOD	ACCUM. PRECIP. SINCE 10/1/77	ACCUM. PRECIP. PREVIOUS YEAR
<u>LAKE TAHOE-TRUCKEE</u>			(Inches)	(Inches)	(Inches)
Echo Peak	7800	4/26/78 - 6/1/78 6/1/78 - 8/17/78 8/17/78 - 9/26/78	1.1 0.5 5.3	48.9 49.4 54.7	24.0
Fallen Leaf	6240	4/26/78 - 5/10/78 5/10/78 - 5/29/78 5/29/78 - 8/30/78	0.5 0 3.1	33.1 0 36.1	12.4
Hagans Meadow	8000	4/26/78 - 6/1/78 6/1/78 - 7/26/78 7/26/78 - 8/7/78	1.1 0.4 0.6	37.2 37.6 38.2	18.1
Heavenly Valley	8800	4/26/78 - 6/1/78 6/1/78 - 8/29/78	1.5 1.5	37.6 39.1	-
Independence Camp	7000	4/26/78 - 6/1/78 6/1/78 - 7/19/78 7/19/78 - 8/29/78	1.5 0.9 0.3	38.4 39.3 39.6	15.5
Independence Creek	6500	4/29/78 - 8/14/78 8/4/78 - 8/29/78	4.0 0.4	39.6 40.0	15.3
Independence Lake	8450	4/29/78 - 6/1/78 6/1/78 - 7/6/78 7/6/78 - 8/4/78	1.9 0.9 0.8	47.6 48.5 49.3	23.3
Marlette Lake	8000	4/24/78 - 6/1/78 6/1/78 - 8/16/78 8/16/78 - 9/15/78	1.0 0.7 1.9	38.1 38.8 40.7	20.0
Mount Rose	9000	3/27/78 - 6/1/78 6/1/78 - 8/9/78	4.0 1.1	28.3 29.4	15.0
Rubicon #2	7500	4/4/78 - 6/1/78 6/1/78 - 9/28/78	7.7 1.7	47.8 49.5	-
Tahoe City Cross	6750	3/28/78 - 8/17/78	6.1	33.8	17.4
Truckee #2	6400	3/28/78 - 7/25/78 7/25/78 - 9/13/78	18.7 1.6	37.5 39.1	13.2
Ward Creek #3	6750	4/29/78 - 6/1/78 6/1/78 - 8/10/78	2.6 1.6	66.1 67.7	33.2

PRECIPITATION (Inches)		CURRENT RECORD			PAST RECORD
BASIN AND PRECIPITATION GAGE LOCATION	ELEVATION	PERIOD OF MEASUREMENT	ACCUM. PRECIP. FOR THE PERIOD	ACCUM. PRECIP. SINCE 10/1/77	ACCUM. PRECIP. PREVIOUS YEAR
<u>CARSON-WALKER</u>			(Inches)	(Inches)	(Inches)
Blue Lakes	8000	4/26/78 - 8/31/78	1.9	48.7	
		8/31/78 - 9/15/78	4.6	53.3	-
Ebbetts Pass	8700	4/26/78 - 6/4/78	1.6	48.2	
		6/4/78 - 6/12/78	.7	48.9	
		6/12/78 - 7/28/78	.9	49.8	-
Lobdell Lake	9200	4/26/78 - 8/1/78	1.4	31.0	-
Poison Flat	7900	4/26/78 - 8/8/78	2.0	33.0	-
Sonora Pass Bridge	8800	4/26/78 - 6/6/78	0.9	38.6	
		6/6/78 - 8/1/78	2.1	40.7	
		8/1/78 - 9/27/78	4.8	45.5	-
Virginia Lakes Ridge	9200	4/26/78 - 6/7/78	0.3	35.3	
		6/1/78 - 9/27/78	2.9	38.2	25.2
<u>HUMBOLDT</u>					
Big Creek Summit	8700	8/24/78 - 9/27/78	3.1	-	-
Buckskin, Lower	6700	6/27/78 - 9/13/78	1.8	-	-
Corral Canyon	8500	4/30/78 - 7/15/78	3.2	28.5	
		7/15/78 - 9/21/78	3.2	31.7	27.0
Dorsey Basin	8100	3/29/78 - 9/21/78	12.0	33.7	25.3
Granite Peak	7800	3/28/78 - 6/28/78	8.9	-	
		6.28/78 - 9/13/78	1.1	-	-
Green Mountain	8000	4/24/78 - 7/14/78	5.9	29.2	-
Lamance Creek	6000	3/27/78 - 6/30/78	6.2	28.6	
		6/30/78 - 9/13/78	1.7	30.3	-
Lamoille # 3	7700	4/24/78 - 9/16/78	8.2	33.5	-
Rodeo Flat	6800	4/24/78 - 7/20/78	4.6	17.0	
		7/20/78 - 8/16/78	0.1	17.1	
		8/16/78 - 9/15/78	4.0	21.1	16.0

PRECIPITATION (Inches)		CURRENT RECORD			PAST RECORD
BASIN AND PRECIPITATION GAGE LOCATION	ELEVATION	PERIOD OF MEASUREMENT	ACCUM. PRECIP. FOR THE PERIOD	ACCUM. PRECIP. SINCE 10/1/77	ACCUM. PRECIP. PREVIOUS YEAR
			(Inches)	(Inches)	(Inches)
<u>SNAKE-OWYHEE</u>					
Bear Creek	7800	4/24/78 - 8/16/78	5.4	26.0	28.8
Big Bend	6700	4/24/78 - 7/18/78	3.1	16.5	19.0
		7/18/78 - 8/14/78	1.7	18.2	
		8/14/78 - 9/18/78	2.3	20.5	
Fawn Creek	7000	3/27/78 - 9/14/78	14.5	-	-
Goat Creek	8800	3/30/78 - 8/16/78	8.3	30.8	30.0
Jack Creek, Upper	7250	4/24/78 - 7/20/78	5.6	26.3	29.1
		7/20/78 - 8/14/78	0.4	26.7	
		8/14/78 - 9/15/78	2.4	29.1	
Jacks Peak	8420	4/24/78 - 9/15/78	11.8	29.9	37.0
Laurel Draw	6700	4/24/78 - 7/17/78	3.6	-	
		7/17/78 - 9/14/78	1.8	-	
Pole Creek Ranger Station	8330	3/30/78 - 8/14/78	9.2	24.4	29.8
		8/14/78 - 9/19/78	1.2	25.6	
76 Creek	7100	4/24/78 - 6/2/78	2.4	16.4	12.6
		6/2/78 - 7/13/78	0.4	16.8	
		7/13/78 - 8/15/78	0.0	16.8	
		8/15/78 - 9/21/78	3.2	20.0	
Taylor Canyon	6200	4/24/78 - 7/29/78	3.8	13.6	13.8
		7/20/78 - 8/16/78	0	13.6	
		8/16/78 - 9/15/78	2.3	15.9	
<u>EASTERN NEVADA</u>					
Berry Creek	9100	4/24/78 - 9/19/78	6.1	28.7	30.0
<u>NORTHERN GREAT BASIN</u>					
Cedar Pass	7100	4/29/78 - 9/26/78	4.9	34.0	-

SNOTEL SITE

BEAR CREEK

Drainage Snake River Elevation 7800 ft. Type Pillow 2-4'x5' Stainless

Precip. Gage Type 12" orifice - 12 ft. high Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
1 3 78	12:8	6.6	5.8	-8.0
2 14 78	12:22	16.9	12.7	-10.5
2 20 78	9: 4	18.6	14.4	- 3.7
2 23 78	14: 7	19.0	14.4	.7
3 11 78	13: 8	20.5	14.0	-14.0
3 13 78	11:50	22.5	16.2	- 6.0
3 17 78	18:29	23.2	16.5	- 5.2
3 18 78	10:18	23.3	16.6	5.7
3 20 78	9:22	23.2	16.6	.9
3 21 78	10:37	23.3	16.6	4.9
3 22 78	10:12	23.3	16.7	- 1.1
3 23 78	11: 6	22.9	16.6	- 5.7
3 24 78	11:10	23.0	16.7	- 2.9
3 26 78	14:19	23.0	16.9	7.5
3 27 78	10:38	23.0	16.9	7.4
3 28 78	13:47	22.9	16.9	6.1
3 29 78	7: 4	22.5	16.6	- 3.9
3 30 78	2:49	22.8	16.8	- 4.0
3 31 78	6:13	21.0	15.2	- 8.1
4 3 78	11:51	22.5	17.3	- 1.1
4 5 78	12:23	23.7	17.8	- 5.0
4 6 78	9:50	24.1	18.0	- 1.9
4 10 78	10: 2	26.4	19.4	3.4
4 11 78	5:15	26.3	19.4	- 3.6
4 12 78	8:39	26.6	19.5	- 6.0
4 13 78	7:32	26.6	19.5	- 4.2
4 19 78	9: 4	27.4	20.1	.5
4 20 78	9:59	27.3	20.2	1.3
4 22 78	12:45	28.0	20.5	- 3.1
4 23 78	11: 4	28.3	20.5	.0
4 24 78	13:28	28.1	20.5	3.8
4 25 78	9:55	28.1	20.6	4.3
4 27 78	13:50	27.6	21.2	- 2.3
4 28 78	10:32	28.4	21.8	.3
4 29 78	16:51	28.4	21.8	- 1.8
4 30 78	7:23	28.4	21.8	- 3.6
5 1 78	4:35	28.3	21.8	- 5.8
5 2 78	5:57	28.3	21.8	- 3.8
5 3 78	5:35	28.3	21.7	- 4.1
5 4 78	6:22	27.9	21.8	-10.1
5 5 78	6: 4	27.8	22.0	-13.4
5 6 78	6:42	27.9	22.3	- 8.9
5 7 78	13:57	28.3	22.5	1.1
5 8 78	5:33	28.3	22.6	- 6.3

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gages (Accumulated inches since 10/1/77)	Air Temperature °C
5 10 78	5:29	27.0	22.7	- 4.4
5 11 78	5:21	26.0	22.7	- 1.2
5 12 78	5:30	25.7	22.7	-10.4
5 13 78	9:31	24.9	22.8	7.5
5 14 78	7:46	23.6	22.9	5.2
5 15 78	5:16		23.0	2.4
5 16 78	5:17		23.3	- 8.5
5 17 78	6: 4		23.5	- 7.2
5 18 78	5:27		23.5	- 6.3
5 19 78	5:31	22.5	23.5	- 6.1
5 20 78	8:46	22.3	23.6	7.1
5 21 78	8: 8	20.8	23.6	8.3
5 22 78	6:53	19.9	23.6	- 2.0
5 23 78	5:24	18.9	23.7	- 7.3
5 24 78	5:25	18.7	24.3	- 8.8
5 25 78	5:36	18.7	24.5	- 8.9
5 26 78	5:25	18.7	24.7	-13.5
5 27 78	7:25	18.9	24.7	- 1.2
5 28 78	7:22	18.9	24.7	.5
5 29 78	10:21	17.9	24.7	3.2
5 30 78	6:19	17.3	24.7	- 8.1
5 31 78	5:23	17.3	24.7	-10.8
6 1 78	4:54	16.3	24.7	- 4.2
6 2 78	5:26	15.3	24.7	- 4.5
6 3 78	9:12	14.6	24.7	.1
6 4 78	7:50	13.7	24.7	3.2
6 5 78	13:28	12.3	24.8	8.6
6 6 78	5:57	11.1	24.8	.3
6 15 78	9:10		25.6	2.4
6 16 78	8:22		25.6	- 1.1
6 17 78	8:22		25.5	6.0
6 18 78	8:23		25.5	6.8
6 19 78	8:28		25.6	2.9
6 20 78	21:55		25.5	2.0
6 21 78	7:41		25.6	9.2
6 30 78	3:42		25.6	1.3
7 31 78	4:39		25.8	3.9
8 31 78	4:47		26.3	8.5
9 30 78	4:49		31.5	- 2.7

SNOTEL SITE
CORRAL CANYON

Drainage Humboldt River Elevation 8500 ft. Type Pillow 2 - 4' x 5' Stainless

Precip. Gage Type 12" orifice 12 ft high Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
5 2 78	6:23	22.6	25.4	- 1.3
5 3 78	5:08	22.2	25.4	- .4
5 4 78	6:40	21.8	25.4	- 5.4
5 6 78	6:56	21.7	25.4	- 6.3
5 8 78	5:27	21.7	25.4	- .1
5 10 78	5:57	21.3	25.5	1.0
5 11 78	6:24	20.3	25.5	2.1
5 12 78	5:19	19.9	25.1	- 1.8
5 14 78	13:51	18.1	25.5	17.1
5 15 78	6:15	17.5	25.5	9.9
5 16 78	5:26	16.3	25.5	- 5.7
5 17 78	6:04	16.1	25.7	- 5.1
5 18 78	5:47	16.0	25.8	- 2.7
5 19 78	5:50	15.7	25.8	- .2
5 20 78	9:12	15.4	25.8	9.2
5 22 78	6:57	13.8	25.9	8.1
5 23 78	5:51	13.0	25.9	3.7
5 24 78	5:44	12.7	26.2	- 7.2
5 25 78	5:32	12.6	26.4	- 7.2
5 26 78	5:43	12.5	26.4	- .6
5 28 78	10:03	11.6	26.5	9.0
5 30 78	6:37	10.4	26.7	.2
5 31 78	5:28	9.6	26.6	- 3.2
6 15 78	9:12	0	26.9	7.8
6 16 78	8:33	0	26.9	6.7
6 17 78	8:34	0	26.9	7.8
6 18 78	8:36	0	26.9	7.2
6 19 78	8:56	0	26.9	9.0
6 30 78	4:45		26.9	12.6
7 31 78	4:45		26.9	15.5
8 30 78	5:19		27.0	12.7
9 30 78	5:12		31.6	- .7

SNOTEL SITE

HAGANS MEADOW

Drainage Tahoe Elevation 8000 ft. Type Pillow 3- 4'x 5' Stainless

Precip. Gage Type 12" orifice 12 ft. high Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
12 3 77	6:32	3.4	4.1	- 5.1
12 4 77	6:33	3.4	4.1	- 5.1
12 5 77	6:26	3.4	4.1	- 4.9
12 6 77	6:21	3.4	4.2	- 2.1
12 7 77	6:15	3.4	4.2	- 3.5
12 8 77	6:49	3.4	4.2	-10.1
12 9 77	6:13	3.4	4.2	- 6.0
12 10 77	18:33	3.4	4.2	- 3.2
12 11 77	18:29	3.5	4.2	- 1.4
12 12 77	6:21	3.7	5.0	-13.0
12 13 77	7:25	3.9	5.0	- .9
12 14 77	5: 4	3.9	5.0	3.9
12 15 77	6:18	5.1	6.9	- .8
12 16 77	5:49	5.0	7.3	-10.4
1 11 78	13:37	14.0	16.3	2.0
1 12 78	11:14	14.1	16.3	- 1.3
1 21 78	16:28	18.9	20.3	- 4.3
1 22 78	16:29	18.9	20.3	- 4.9
1 26 78	10:12	19.2	20.5	.5
1 27 78	4:48	19.2	20.4	-14.3
1 29 78	16:42	19.4	20.6	- 1.3
1 30 78	4:38	19.3	20.5	-13.4
1 31 78	8:51	19.3	20.5	- 9.7
2 4 78	7:36	19.1	20.6	- 2.5
2 6 78	7:36	19.2	21.0	- 3.9
2 16 78	7:25	23.9	25.8	-13.5
2 19 78	8:20	24.0	25.9	- 9.5
2 29 78	8:30	24.3	26.0	- 8.5
2 23 78	14:15	24.6	26.0	8.5
2 25 78	17:30	24.2	26.0	.9
2 26 78	17:40	24.2	26.1	- 1.4
2 27 78	10:26	24.2	26.0	- .1
3 1 78	3:39	24.2	26.0	- 1.7
3 2 78	20:20	24.7	26.4	- 3.0
3 3 78	0: 8	24.6	26.4	- 3.4
3 4 78	4: 7	24.8	26.5	- 1.0
3 9 78	7:49	27.6	29.4	- 1.9
3 10 78	5:38	27.5	29.4	- 3.2
3 11 78	13:27	27.6	29.8	- 3.2
3 12 78	8:21	27.6	29.9	- 6.8
3 13 78	5:56	27.8	29.9	- 9.8
3 14 78	5:36	27.9	30.0	-15.4
3 15 78	5:38	28.1	30.0	-13.1

Continued - HAGANS MEADOW

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gages (Accumulated inches since 10/1/77)	Air Temperature °C
3 17 78	6: 7	28.2	30.0	- 5.6
3 18 78	10:12	28.3	30.1	8.1
3 19 78	9:51	28.2	30.1	6.0
3 20 78	9:27	28.0	30.1	8.9
3 21 78	6:21	27.8	30.1	- .5
3 22 78	6:23	27.8	30.3	- 4.4
3 23 78	5:37	27.9	30.4	- 1.0
3 24 78	5:31	28.1	30.6	-11.3
3 27 78	5:33	27.6	30.6	- 4.0
3 29 78	6:12	26.8	30.8	- 1.4
3 30 78	8:24	26.5	30.8	2.8
3 31 78	6: 5	25.8	30.8	- .6
4 1 78	9:34	26.1	31.3	- .5
4 2 78	9:35	26.1	31.3	- .8
4 3 78	5:37	26.0	31.3	- 8.4
4 4 78	8:39	26.1	31.4	- 3.6
4 5 78	5:47	26.0	31.5	-10.5
4 6 78	5:31	26.2	31.5	- 4.3
4 7 78	5:27	26.7	32.0	-12.7
4 8 78	10: 8	27.2	32.0	- 4.6
4 10 78	5:27	26.9	32.1	- 6.2
4 11 78	5:33	25.4	32.1	- 5.1
4 12 78	5:32	24.6	32.2	- 7.1
4 13 78	7:34	24.5	32.2	- 1.4
4 14 78	5:27	24.5	32.2	- 2.6
4 15 78	9: 2	24.0	32.2	- 1.2
4 16 78	8: 8	24.3	32.8	- 8.2
4 17 78	7: 1	24.6	33.2	-15.4
4 18 78	5:37	24.9	33.3	- 9.5
4 19 78	5:39	24.9	33.3	- 2.4
4 20 78	9:59	24.7	33.5	- 4.6
4 21 78	5:37	25.2	34.5	-17.0
4 22 78	7:57	25.8	34.8	- 5.6
4 23 78	8: 0	25.6	34.8	2.3
4 24 78	5:30	25.2	34.8	4.1
4 25 78	5:35	24.0	34.8	- 1.2
4 27 78	6: 6	23.4	35.0	- 2.4
4 28 78	5:12	22.5	35.0	- 6.4
4 29 78	16:58	22.1	35.1	5.1
5 1 78	4:41	21.7	35.2	- 1.8
5 2 78	6:10	20.8	35.2	- 3.6
5 3 78	5:47	19.1	35.2	- 4.1
5 4 78	6:33	18.2	35.2	- 4.9
5 5 78	5:56	18.0	35.2	- 8.7
5 6 78	6:44	18.1	35.3	- 9.0
5 7 78	14: 3	16.9	35.3	8.6
5 8 78	5:28	15.7	35.3	- 4.9
5 10 78	8: 9	12.8	35.3	4.1
5 11 78	5:29	11.7	35.3	2.2
5 12 78	5:29	10.7	35.3	- 4.0

Continued - HAGANS MEADOW

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gages (Accumulated inches since 10/1/77)	Air Temperature °C
5 14 78	14.7	6.9	35.3	10.7
5 15 78	5:25	5.2	35.5	.8
5 16 78	5:34	5.2	35.7	- 5.7
5 17 78	6: 5	4.6	35.7	- 3.6
5 18 78	5:39	3.1	35.7	- 4.8
5 19 78	5:45	1.9	35.8	- 3.8
5 20 78	9: 5	1.2	35.8	9.8
5 28 78	13:29	0	35.8	15.7
5 30 78	6:27	0	35.8	- 3.5
5 31 78	5:33	0	35.9	- 2.5
6 1 78	5: 4	0	35.9	- 1.6
6 2 78	5:29	0	35.9	- 2.8
6 4 78	7: 1	0	35.9	1.1
6 6 78	6:19	0	35.9	.8
6 7 78	6:10	0	35.8	.6
6 8 78	5:37	0	35.9	- .3
6 30 78	3:55		36.2	- 1.4
7 31 78	4:45		36.2	6.1
8 31 78	5:03		36.6	- 1.6
9 30 78	4:55		38.6	2.3

SNOTEL SITE
INDEPENDENCE CAMP

Drainage Truckee Elevation 7000 ft. Type Pillow 3 - 4' x 5' Stainless

Precip. Gage Type 12" orifice - 16 ft. high Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
4 28 78	9:13		37.3	3.2
4 29 78	19:34		37.2	.8
4 30 78	6:29		37.2	- 1.8
5 1 78	4:34		37.3	- 2.7
5 2 78	4:36		37.9	- 1.4
5 3 78	5:37		37.9	- 1.8
5 4 78	6:31		37.9	- 5.2
5 5 78	5:51		37.9	- 6.6
5 6 78	6:26		37.9	- 8.7
5 8 78	5:24		37.9	- 5.3
5 10 78	5:17		37.8	1.7
5 11 78	5:17		37.7	1.4
5 12 78	5:40		37.7	- 3.5
5 13 78	9:35		37.6	10.5
5 15 78	5:22		37.6	- 1.4
5 16 78	5:50		37.8	- 6.7
5 17 78	5:56		37.8	- 2.6
5 18 78	5:32		37.7	- 3.7
5 19 78	5:32		37.8	- 3.7
5 20 78	8:57		37.7	9.1
5 21 78	8:04		37.7	4.1
5 22 78	6:19		37.7	4.4
5 23 78	5:44		37.7	- 2.3
5 24 78	5:28		38.3	- 4.3
5 25 78	5:33		38.6	- 3.7
5 26 78	5:30		38.6	- 4.5
5 27 78	7:22		38.6	0
5 28 78	7:35		38.6	2.9
5 29 78	6:51		38.5	3.2
5 30 78	6:18		38.6	- 2.1
5 31 78	5:32		38.6	- 3.0
6 15 78	9:36		39.1	8.9
6 16 78	8:26		39.1	7.0
6 17 78	8:26		39.1	11.4
6 18 78	8:26		39.1	7.9
6 19 78	8:50		39.1	10.9
6 20 78	22:23		39.1	6.3
6 21 78	3:10		39.1	1.3
6 30 78	3:59		39.1	1.9
7 31 78	4:44		39.5	6.0
8 31 78	4:48		39.6	1.3
9 30 78	4:57		41.5	5.1

SNOTEL SITE

SONORA PASS

Drainage Walker Elevation 8800 ft. Type Pillow 3 - 4' x 5' Stainless

Precip. Gage Type 12" orifice - 16 ft. high Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
3 26 78	14:49	34.4	33.2	6.5
4 11 78	12:38	35.7	35.5	12.0
4 28 78	13:52	39.7	38.9	2.2
4 29 78	16:50	39.5	38.9	6.0
4 30 78	10:12	37.0	38.9	6.1
5 4 78	4:39	38.5	39.5	0
5 5 78	6:05	38.3	39.5	- 5.1
5 6 78	6:39	38.3	39.5	- 7.6
5 7 78	14:02	39.5	39.5	8.6
5 8 78	5:16	38.8	39.5	- 3.8
5 10 78	5:02	38.5	39.5	.2
5 11 78	5:16	37.6	39.5	1.0
5 12 78	5:26	36.5	39.5	.8
5 13 78	14:11	36.2	39.4	14.4
5 14 78	14:29	35.4	39.5	9.8
5 15 78	5:23	34.3	39.5	1.3
5 16 78	4:59	33.7	39.5	- 7.6
5 17 78	5:58	33.2	39.6	- 5.7
5 18 78	5:15	33.0	39.6	- 4.9
5 19 78	5:19	32.7	39.5	- 3.2
5 20 78	13:38	31.1	39.5	12.7
5 21 78	8:54	30.1	39.5	7.6
5 22 78	6:49	28.7	39.5	2.6
5 23 78	5:36	28.0	39.5	- 2.3
5 24 78	5:29	27.0	39.6	- 8.0
5 25 78	5:28	27.9	39.5	- 7.1
5 26 78	5:33	27.3	39.5	- 7.2
5 27 78	7:37	27.5	39.5	2.8
5 28 78	7:38	26.7	39.5	5.1
5 29 78	8:45	24.9	39.5	12.1
5 30 78	6:16	23.0	39.5	- .3
5 31 78	5:21	21.0	39.5	- 1.9
6 15 78	9:11	0	39.6	6.1
6 16 78	9:41	0	39.6	7.6
6 17 78	9:47	0	39.6	10.7
6 18 78	0:40	0	39.5	7.8
6 19 78	9:21	0	39.6	9.7
6 20 78	22:03	0	39.5	9.9
6 21 78	6:18	0	39.6	8.4
6 22 78	2:40	0	39.6	8.5
6 30 78	3:40		39.6	7.9
7 31 78	5:00		39.7	11.2
8 31 78	4:59		41.0	2.4
9 30 78	5:00		44.8	5.9

SNOTEL SITE

VIRGINIA LAKES

Drainage Walker Elevation 9200 ft. Type Pillow 2- 4' x 5' Galvanized

Precip. Gage Type 12" orifice - 12 ft Temp. Gage Height 16 ft.

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gage (Accumulated inches since 10/1/77)	Air Temperature °C
2 24 78	11:09	26.1	25.3	1.7
2 25 78	18:51	26.3	25.2	- 10.5
2 27 78	10:25	26.6	25.3	- 4.0
3 29 78	0:07	31.2	28.5	- 4.5
3 20 78	11:07	31.2	28.5	3.1
3 21 78	6:09	-	25.9	- 10.7
3 22 78	9:33	31.6	28.7	- 2.1
3 23 78	13:09	31.6	28.7	6.0
3 24 78	9:47	31.3	28.7	2.7
3 26 78	14:14	31.5	28.6	9.5
3 28 78	14:35	31.8	28.9	6.3
3 30 78	10:35	31.8	28.9	- .2
3 31 78	5:52	32.7	29.4	- 4.4
4 1 78	9:27	32.9	29.5	- 1.8
4 3 78	5:44	32.9	29.5	- 10.1
4 4 78	8:46	33.4	29.5	- 6.8
4 5 78	5:34	33.2	29.7	- 3.3
4 10 78	5:35	34.4	30.5	- 5.5
4 15 78	9:14	35.5	30.5	- 5.2
4 17 78	7:10	36.1	31.7	- 6.2
4 20 78	10:00	36.6	31.8	- 3.1
5 3 78	10:11	37.3	31.1	7.3
5 4 78	5:19	37.2	31.1	- 2.9
5 5 78	6:01	36.9	31.1	- 8.5
5 6 78	6:39	35.8	31.1	- 8.9
5 7 78	14:01	35.1	31.4	4.7
5 8 78	5:23	35.1	31.1	- 3.8
5 10 78	5:25	34.5	31.1	- .8
5 11 78	5:21	33.2	31.4	1.3
5 12 78	5:17	32.3	31.4	.6
5 14 78	6:22	30.8	31.4	3.2
5 15 78	5:25	29.8	31.4	1.8
5 16 78	5:20	29.3	31.4	- 8.9
5 17 78	5:47	28.7	31.4	- 6.1
5 18 78	5:22	28.4	31.4	- 5.4
5 19 78	5:32	27.5	31.4	- 2.9
5 20 78	9:12	26.8	31.4	6.4
5 22 78	6:49	25.5	31.4	.2
5 23 78	5:48	24.8	31.4	- 2.3
5 24 78	5:26	24.5	31.4	- 7.9
5 25 78	5:08	23.8	31.4	- 5.4
5 26 78	5:36	22.7	31.1	- 6.5
5 27 78	7:24	22.0	31.4	.1
5 28 78	7:41	21.6	31.4	1.1

MM/DD/YY	HH/MM	Snow Pillow (inches of water)	Precipitation Gages (Accumulated inches since 10/1/77)	Air Temperature °C
5 29 78	8:34	20.5	31.4	9.8
5 30 78	6:20	19.1	31.4	0
5 31 78	5:34	18.2	31.4	- 1.0
6 12 78	6:08	0		0
6 13 78	9:47	0		0
6 15 78	9:33	0		6.9
6 16 78	8:26	0		4.7
6 17 78	8:33	0		7.8
6 18 78	8:26	0	34.5	7.3
6 19 78	8:41	0	34.5	7.1
6 21 78	0:08	0	34.5	6.1
6 22 78	0:0	0	34.5	7.3
6 30 78	3:39		34.7	2.1
7 31 78	5:01		34.7	11.6
8 31 78	4:50		35.4	2.4
9 30 78	5:00		37.1	5.9

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- U. S. District Court - Federal Water Master
- NOAA, National Weather Service

STATE

- California Cooperative Snow Surveys
- California Department of Parks and Recreation
- California Department of Water Resources
- Colorado River Commission of Nevada
- Idaho Cooperative Snow Surveys
- Nevada Association of Conservation Districts
- Nevada Department of Conservation & Natural Resources
 - Division of Water Resources
 - Nevada State Forester
- Oregon Cooperative Snow Surveys
- Utah Cooperative Snow Surveys
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas and Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Truckee-Carson Irrigation District
- Walker River Irrigation District
- Washoe County Water Conservancy District

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